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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,429	05/31/2001	Orjan Fritz	P5118US00	7518

7590 06/08/2006

Docket Clerk  
P.O. Box Drawer 800889  
Dallas, TX 75380

EXAMINER
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POON, KING Y

ART UNIT	PAPER NUMBER
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2625

DATE MAILED: 06/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/867,429	<b>Applicant(s)</b> FRITZ ET AL.	
	<b>Examiner</b> King Y. Poon	<b>Art Unit</b> 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-71 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-71 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10, 12-14, 17-20, 24-38, 40, 44-45, 47-57, 60-61, 64-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petteruti et al. (US 6,379,058) & Mettala (Bluetooth Protocol Architecture).

Regarding claim 1, Petteruti et al., teaches a system with the method for printing a document in a data communications system, the system including a processing unit including a printer client the processing unit and the printer using for communication between each other a wireless printer protocol (column 3:lines 63-66, RF communication interface links a host terminal and a printer), the method comprising the steps of: establishing a wireless connection between the processing unit including a printer client (the software in the client in the host terminal, column 3, line 64, that sending out a request, that requires a response, such as a force link packet, fig. 4) and the printer (column 3, lines 63-66) including a print server (the program that process the request/command from the print client, e.g., accept and send accept link packet, fig. 5), establishing a connection (transmit packet, fig. 7B, fig. 7A) for one or more print jobs between the printer client and the printer server (column 6, lines 20-23, the host receives an accept link packet for a print job from the printer via the RF interface 18);

Art Unit: 2625

negotiating configuration parameters between the printer client and the printer server (column 8, lines 20-23, negotiation of parameters is processed over the RF interface between the printer and the host); sending keep alive messages repeatedly from the printer client to the printer server and from the printer server to the printer client (column 6, lines 49-66, both the printer and the host can send different types of packets that maintain connection), wherein at least some of the keep alive messages are sent periodically (e.g., the expected packet was sent from time to time (periodically), column 7, lines 23-25, column 7, lines 65-67, column 8, lines 1-5) after negotiation of the configuration parameters (the wake up packet is sent before data packet, column 6, lines 1-20, column 8, lines 20-60), the stay alive message identifying whether the connection between the printer client and the printer server remains established (e.g., the expected response packet, column 7, lines 20-30, will identify, to the receiving side that the connection remains established, otherwise, the receiving side will not receive the expected response packet/message; also see column 10, lines 1-27), wherein the connection (transmitting print job packet step 184, fig. 7A fig. 7B; since Petteruti is using connectionless type of connection, the channel between the printer client and printer is connected only when the packet is successfully received by the receiving party, column 10, lines 40-50) between the printer client and the printer server is closed (198, fig. 7B(i), once the print data packet is cleared, there are no packets to be sent and the connection is closed until the next packet is established; also see surrendering the channel/closing the connection, column 11, lines 15-16) when the stay alive message is not received or transmitted by any of the transmitting and receiving parties (fig. 7B and

fig. 7B(i)); starting a print job (column 6:lines 10-14, wake-up packets start the entire print job, ; sending the print data from the processing unit to the printer (figure 5A, steps 1 10-120 indicated data transmission to the printer); stopping the print job, and closing the connection between the processing unit and the printer (figure 7B. when the data transfer is successful, the lack of data sent by the host lets the printer know that the print job has ended and that the connection will be closed as the host device returns to step 152, which in figure 7 is the start of the process before a connection can be made. Column 7:lines 29-31 the printer receives the session number from the host during packet transmission).

Petteruti, does not teach using Bluetooth protocol as the wireless communication link.

However, Mettala teaches in "Bluetooth Protocol Architecture, Version 1.0" the Bluetooth protocol stack including a Logical Link Control and Adaptation Protocol (L2CAP) that allows an asynchronous connection-less (ACL) connection (pages 7-8, section 2.1 .3) by calling the L2CAP requesting the ACL connection and the L2CAP creating the ACL connection (transmit and receive, page 8, lines 1-5); Bluetooth Protocol is especially designed for developing interactive services and applications over interoperable radio modules and data communication protocols (page 4, introduction).

Since Petteruti's invention is interactive services and applications over interoperable radio modules and data communication protocols, it would have been obvious to one skilled in the art at the time of the invention to have used the Bluetooth protocol as taught by Mettala as the RF communication link for the method taught by

Art Unit: 2625

Petteruti, because it provides multiple usage models which increase the wireless system's communication scenarios as taught by Mettala starting on page 12.

Regarding claim 2, the claim rejection of claim 1 is representative of claim 2. See Petteruti, teachings of the further step to be taken before the step of establishing a bi-directional wireless ACL connection: selecting a printer among a number of available printers and obtaining an address of a printer (column 5, lines 49-51, host prompts for specific printer based on address).

Regarding claim 3, the claim rejection of claim 2 is representative of claim 3. See Mettala teachings of discovery protocol starting on page 8.

Regarding claim 4, the claim rejection of claim 1 is representative of claim 4. See Petteruti teachings of the further step to be taken before the step of establishing a bi-directional wireless ACL; connection: obtaining an address of a printer (column 5, lines 49-51, host prompts for specific printer based on address).

Regarding claim 5, the claim rejection of claim 4 is representative of claim 5. See Mettala teachings of discovery protocol starting on page 8.

Regarding claim 6, the claim rejection of claim 5 is representative of claim 6. See Petteruti teachings of establishing a connection for one or more print jobs by sending a connection request message from the printer client to the printer server (column 6, lines 10-14, a wake up packet is sent from the host to request a connection with the printer).

Regarding claim 7, the claim rejection of claim 6 is representative of claim 7. See Petteruti teachings of establishing a connection for one or more print jobs further comprise responding to the connection request message in a response message sent

from the printer server to the printer client regardless of whether the connection is successful (column 10, lines 1-5, column 7, lines 24-26).

Regarding claim 8, the claim rejection of claim 1 is representative of claim 8. See Petteruti teachings wherein the step of negotiating the configuration parameters, between the printer client and the printer server, comprises the printer client requesting configuration in a configuration request message sent to the printer server, the message including no new options, if printer client uses default values (column 8, lines 32-59, the printer receives a wake up packet with suggested negotiation parameters that include default values).

Regarding claim 9, the claim rejection of claim 1 is representative of claim 9. See Petteruti teachings wherein the step of negotiating the configuration parameters, between the printer client and the printer server, comprises printer client requesting configuration in a configuration request message sent to the printer server, the configuration request message including a suggestion of configuration options (column 8, lines 20-23).

Regarding claim 10, the claim rejection of claim 9 is representative of claim 10. See Petteruti teachings wherein said configuration request message is responded to by the printer server in a response message indicating whether the configuration options in the configuration request are supported by the printer server (figure 6B, step 148, printer sends ready packet if negotiation parameters are met).

Regarding claim 12, the claim rejection of claim 1 is representative of claim 12. See Petteruti teachings of sending a set attribute request message from the printer

Art Unit: 2625

client to the printer server after negotiating configuration parameters (note: after combining Petteruti and Bluetooth, the configuration negotiating configuration parameters of claim 1 could also be the service discovery Protocol, 2.1.4, page 8 of Mettala and is necessary before connection), the attribute request message comprising a coding table concerning a negotiated coding type (column 8:lines 20-59, negotiation of parameters is processed over the RF interface between the printer and the host. The printer receives a wake up packet with suggested negotiation parameters, including coding/encoding parameters).

Regarding claim 13, the claim rejection of claim 12 is representative of claim 13. See Petteruti teachings of the printer server loading the coding table by means of said received set attribute request message (column 8:lines 38-47, the printer modifies local parameters in accordance with the suggested negotiation parameters from the host).

Regarding claim 14, the claim rejection of claim 13 is representative of claim 14. See Petteruti teachings of sending a response to the set attribute request message from the print server to the print client regardless of whether the loading is successful (column 7, lines 20-30, column 10, lines 1-6).

Regarding claim 17, the claim rejection of claim 1 is representative of claim 17. See Petteruti teachings of wherein the step of starting a print job comprises the printer client requesting the printer server to start the print job in a request message (column 6, lines 10-14, host sends wake up packet starting the print job).

Regarding claim 18, the claim rejection of claim 17 is representative of claim 18. See Petteruti teachings of wherein request message is received and confirmed by the



Art Unit: 2625

printer server, and a confirmation is sent in a response message to the printer client (column 6, lines 14-17, ready packet is sent in response).

Regarding claim 19, the claim rejection of claim 1 is representative of claim 19. See Petteruti teachings of wherein the step of sending the print data from the processing unit to the printer, comprises sending print data in a number of print data request messages (column 7, line 66 – column 8, line 1, multiple data blocks are sent to the printer)

Regarding claim 20, the claim rejection of claim 19 is representative of claim 20. See Petteruti teachings of the step of sending an acknowledgement message from the printer server to the printer client after the printer server have received a predetermined number of the print data request message (column 8, lines 1-4, step 116, the predetermine number is 1).

Regarding claim 24, the claim rejection of claim 1 is representative of claim 24. See Petteruti teachings of stopping a keep alive timer when the ACL connection is disconnected during printing (column 6, lines 26-36, the printer receives instruction to select a broadcast link, then a timer starts. The connection request closes if the timer runs out at step 85g).

Regarding claim 25, the claim rejection of claim 24 is representative of claim 25. See Petteruti teachings of requesting a reconnection of the session defined by the session identifier in a message sent from the printer client to the printer server (column 7, lines 14-28, host sends a retry packet with the sequence number and source address

Art Unit: 2625

that identifies the current session when the host does not receive an expected response).

Regarding claim 26, the claim rejection of claim 25 is representative of claim 26. See Petteruti teachings of sending a response according to whether the reconnection is granted or not in a message from the printer server to the printer client (column 7, lines 28-49, printer checks if source address matches and sends an accept packet if connection request is accepted).

Regarding claim 27, the claim rejection of claim 26 is representative of claim 27. See Petteruti teachings of continuing the printing by continuing to send print data request messages, after the printer client receives a granted reconnection response starting with the print data request message subsequent to the last received print data acknowledgement message (column 7, lines 22-26, host retires the packet with an incremented sequence number that corresponds to the last tried packet)

Regarding claims 28 and 30, the claim rejection of claim 1 is representative of claims 28 & 30. See Petteruti et al teachings of sending requests to stop the print job and to stop the connection in messages from the printer client to the printer server (figure 7B, when the data transfer is successful, the lack of data (message) sent by the host lets the printer know that the print job has ended and that the connection will be closed as the host device returns to step 152, which in figure 7 is the start of the process before a connection can be made. Column 7:lines 29-31, the printer receives the session number from the host during packet transmission. Also, the last data packets indicates the end of the data packet/print job, column 8, lines 5-10).

Regarding claims 29 & 31, Petteruti et al., & Mettala teach an apparatus according to claims 28 & 30, respectively, wherein the print job is stopped and the connection is closed after data transmission is successful (figure 7B, when the data transfer is successful, the lack of data sent by the host lets the printer know that the print job has ended and that the connection will be closed as the host device returns to step 152, which in figure 7 is the start of the process before a connection can be made. Column 7, lines 29-31, the printer receives the session number from the host during packet transmission; also the hand shake to the last packet is confirming the receive of the end data/print job stops here, 116, fig. 5A).

Regarding claim 32, the claim rejection of claim 1 is representative of claim 32. See teachings of stopping the sending of keep alive messages when a connection is closed (figure 7B, keep alive messages (i.e. packets) are halted when data transmission ends and the connection closes at step 210).

Regarding claims 33 & 34, the claim rejection of claim 1 is representative of claims 33 & 34. See Petterut et al., teachings of a computer program product comprising readable program for causing a computer within a processing unit or printer in a communication system to control an execution of the steps of claim 1 (column 3, lines 47-51 computer program).

Claims 35, 36, 37, 38, 40, 44, 45, 47, 48, 49, 50, 51, & 52 recite identical features as claims 1, 6, 8, 8, 12, 17, 19, 24, 25, 27, 28, 30, & 32, respectively, except claims 35, 36, 37, 38, 40, 44, 45, 47, 48, 49, 50, 51, & 52 are apparatus claims. Thus, arguments

Art Unit: 2625

similar to that presented above for claims 1, 6, 8, 8, 12, 17, 19, 24, 25, 27, 28, 30, & 32 are equally applicable to claims 35, 36, 37, 38, 40, 44, 45, 47, 48, 49, 50, 51, & 52.

Claims 53, 54, 55, 56, 57, 60, 61, 64, 65, 66, 67, 68, & 69 recite identical features as claims 1, 7, 10, 12, 14, 18, 20, 24, 26, 29, 31, 32, & 1, respectively, except claims 53, 54, 55, 56, 57, 60, 61, 64, 65, 66, 67, 68, & 69 are apparatus claims. Thus, arguments similar to that presented above for claims 1, 7, 10, 12, 14, 18, 20, 24, 26, 29, 31, 32, & 1 are equally applicable to claims 53, 54, 55, 56, 57, 60, 61, 64, 65, 66, 67, 68, & 69.

Regarding claim 70: Petteruti teaches wherein at least some of the keep alive messages inform one of the printer server and the printer client that the other of the printer server and the printer client is hard loaded and is operating slowly than normal (column 7, lines 60-65, column 9, lines 45-67).

Regarding claim 71: Petteruti teaches wherein each of the keep alive only results in one of the printer server and the printer client restarting a keep alive timer (column 9, lines 45-67).

3. Claims 11, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petteruti et al. (US 6,379,058) & Mettala (Bluetooth Protocol Architecture) & Dehority (US 5,129,639).

Regarding claim 11, Petteruti et al., & Mettala teach the method according to claim 10. Petteruti also teaches resending configuration request message (retry, column 10, lines 6-10) if the configuration is not supported by the print server (column 9, lines 62-63).

Petteruti does not teach including sending a further configuration request message from the printer client to the printer server, if the configuration options are not supported by the printer server wherein the further configuration request message includes a suggestion of configuration options which differs from earlier suggestions.

However, Dehority teaches a printer configuration control system that (column 4, lines 19-23) notifies the user if a failure/mismatch occurs, and gives the opportunity for the user to response with a change of printing configuration message (column 4, lines 40-45).

Accordingly, it would have been obvious to one skilled in the art at the time of the invention to have used the printer configuration control system ability to suggest a change of the configuration options which is differ form the earlier suggestion, taught by Dehority in the method taught by Petteruti et al., & Mettala because it allows for alterations to match the currently available configurations instead of relying on a best-fit.

Claim 39 recites identical features as claim 11 except claim 39 is an apparatus claim. Thus, arguments similar to that presented above for claim 11 are equally applicable to claim 39.

4. Claims 15-16, 41-43, 58-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petteruti et al. (US 6,379,058) & Mettala (Bluetooth Protocol Architecture) & Mahany et al (US 5,682,379).

Regarding claims 15 and 16, Petteruti et al., & Mettala teach the method according to claim 1, wherein a keep alive timer is implemented in the printer server,

Art Unit: 2625

and the time is started each time a valid message is received from the remote endpoint, and if the time ends, the connection closes (see Petteruti teachings in column 6, lines 26-36, wherein the printer receives instruction to select a broadcast link, then a timer starts. The connection request closes if the timer runs out at step 85g). Petteruti et al., &

Mettala do not teach a keep alive timer implemented in the printer client.

However, Mahany et al., teach (column 5, lines 47-63) a terminal/client and printer connected in an RF microLAN network where the printer (column 10, lines 58-59) is set as the microLAN master device and the slave devices (i.e. terminal/client) request (column 12, lines 15-26) data transfer at time period 217, starting time period 227 which keeps the data transfer communication alive until it is transferred in time period 221 at which time data transfer is over and connection closes.

Accordingly, it would have been obvious to one skilled in the art at the time of the invention to have used the client keep alive timer in the method of Petteruti et al., & Mettala because it avoids collisions between multiple devices sending messages to the master device (column 12, lines 21-24).

Claims 41, 42, 43, 58, & 59 recite identical features as claims 15, 15, 16, 15, & 15, respectively, except claims 41, 42, 43, 58, & 59 are apparatus claims. Thus, arguments similar to that presented above for claims 15, 15, 16, 15, & 15 are equally applicable to claims 41, 42, 43, 58, & 59.

5. Claims 21-23, 46, 62-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petteruti et al. (US 6,379,058) & Mettala (Bluetooth Protocol Architecture) & Brown et al (US 6,163,538).

Regarding claims 21 & 22, Petteruti et al., & Mettala teach the method according to claim 1 , but do not teach indicating that the printer is out of paper in a message sent from the printer server to the printer client, nor do they teach indicating that the printer is refilled in a message sent from the printer server to the printer client.

However, Brown et al., teach a message regarding the printer ready status in accordance with a out-of-paper status (column 1s:lines 16-25, the return link response indicated whether or not the printer is ready to receive data due to an out-of-paper signal. The printer will send a response that indicates a ready to receive message when the out-of-paper status is resolved (i.e. paper refilled).

Accordingly, it would have been obvious to one skilled in the art at the time of the invention to have used the paper status indication taught by Brown et al., as part of the steps taught by Petteruti et al., & Mettala, because it maintains more specific communication as to why the printer is unavailable, which allows the client user to respond more quickly to a out-of-paper response.

Regarding claim 23, the claim rejection of claim 22 is representative of claim 23. See Petteruti teachings of starting with the print data subsequent to the last received print data acknowledgement message (column 7, lines 14-28, host sends a retry packet with the sequence number and source address that identifies the current session when the host does not receive an expected response).

Claims 46, 62, & 63 recite identical features as claims 23, 21, & 22, respectively, except claims 46, 62, 63 are apparatus claims. Thus, arguments similar to that presented above for claims 23, 21, & 22 are equally applicable to claims 46, 62, & 63.

### ***Response to Arguments***

6. Applicant's arguments filed 3/27/2006 have been fully considered but they are not persuasive.

With respect to applicant's argument that that Petteruti does not teach stay alive packet is being sent periodically and after negotiation of configuration parameters, has been considered.

In reply: Petteruti teaches sending keep alive messages repeatedly from the printer client to the printer server and from the printer server to the printer client (column 6, lines 49-66, both the printer and the host can send different types of packets that maintain connection), wherein at least some of the keep alive messages are sent periodically (e.g., the expect packet was sent from time to time (periodically), column 7, lines 23-25, column 7, lines 65-67, column 8, lines 1-5) after negotiation of the configuration parameters (the wake up packet is send before data packet, column 6, lines 1-20, column 8, lines 20-60), the stay alive message identifying whether the connection between the printer client and the printer sever remains established (e.g., the expected response packet, column 7, lines 20-30, will identify, to the receiving side that the connection remains established, other wise, the receiving side will not received the expected response packet/message; also see column 10, lines 1-27).



7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Conclusion***


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to King Y. Poon whose telephone number is 571-272-7440. The examiner can normally be reached on Mon-Fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2625

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 6, 2006

A handwritten signature in black ink, appearing to read 'K. Y. Poon', with a stylized, cursive script.

**KING Y. POON  
PRIMARY EXAMINER**